Data Format Documentation

Instrument: Two-dimensional video disdrometer (2dvd) at NSSTC

The 2dvd data set consists of both binary preprocessed hydrometer files created by the instrument manufacturer's software as well as ASCII files containing rain rate, drop size distribution and information on individual hydrometeors. These files are created daily and their filename format is "VYYdoy", where YY is the last two digits of the year and doy is the day of the year.

The following files are contained within the tar archive:

- V*.hyd: compressed binary files preprocessed from the raw camera data
    - contain information on individual hydrometeors
    - can be viewed graphically with VIEW_HYD software available from Joanneum Research, the instrument manufacturer
    - decompression and data read possible with HYD2ASC program
- V*.hd: header file associated with V*.hyd file used by HYD programs

- V*.drops.txt: ASCII file containing information on individual hydrometeors
- V*.dsd.txt: ASCII file containing drop size distribution each minute hydrometeors were detected and binned by 0.2 mm
- V*.rainrate.txt: ASCII file containing rainfall rate for each minute hydrometeors were detected

Level 1A: hyd and hd files

Format: compressed binary

Software: VIEW_HYD and HYD2ASC

Level 2: drop-by-drop files

Format: ASCII

Format of each line:
HH:mm:SS.ms, equivalent diameter (mm), volume (mm^3), fallspeed (m/s), oblateness, cross-sectional area (mm^2), height in Camera A (mm), height in Camera B (mm) , width in Camera A (mm), width in Camera B (mm), minimum pixel shawdowed in A (pixel #), maximum pixel shadowed in A (pixel #), minimum pixel shawdowed in B (pixel #), maximum pixel shadowed in B (pixel #)

Note: Both A & B Cameras contain 632 pixels.

Level 3: Drop size distribution (DSD)

Format: ASCII

Format of each line:
integration_period (UTC)   bin_width (mm)   drop_concentration ($m^{-3}mm^{-1}$)

Level 3: Rain rate

Format: ASCII

Format of each line:
Beginning of 1-minute integration (UTC)   rainrate= rainfall rate (mm/hr)

Last updated: September 7, 2011